

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Competition in DoD Acquisitions		5. TYPE OF REPORT & PERIOD COVERED Final
7. AUTHOR(s) Richard P. White Myron G. Myers		6. PERFORMING ORG. REPORT NUMBER RE907
9. PERFORMING ORGANIZATION NAME AND ADDRESS Logistics Management Institute 4701 Sangamore Road Washington, D. C. 20016		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Office of Director of Contracts and Systems Acquisition, Under Secretary of Defense for Research and Engineering		12. REPORT DATE May 1979
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		13. NUMBER OF PAGES 44
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) "A" - Approved for Public Release; Distribution Unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Price Competition Design and Technical Competition DD-350 Individual Procurement Action Report		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report examines the downtrend in competitive procurements within DoD in order to identify principal causes. Results for the most current year, FY78, were compared with FY72 results and discussed with personnel representing various purchasing activities. Findings were that the downtrend in dollars obligated after competition was real and not caused by changes in the makeup of categories of supplies and services. The decline was caused by reduced competition in a few high dollar (cont.)		

COMPETITION IN
DoD ACQUISITIONS

May 1979

Richard P. White
Myron G. Myers

Prepared pursuant to Department of Defense Contract No. MDA 903-77-C-0370 (LMI Task RE907). Views or conclusions contained in this document should not be interpreted as representing official opinion or policy of the Department of Defense. Except for use for Government purposes, permission to quote from or reproduce portions of this document must be obtained from the Logistics Management Institute.

LOGISTICS MANAGEMENT INSTITUTE
4701 Sangamore Road
Washington, D.C. 20016

COMPETITION IN
DoD ACQUISITIONS

May 1979

Richard P. White
Myron G. Myers

Don Sowle

Prepared pursuant to Department of Defense Contract No. MDA 903-77-C-0370 (LMI Task RE907). Views or conclusions contained in this document should not be interpreted as representing official opinion or policy of the Department of Defense. Except for use for Government purposes, permission to quote from or reproduce portions of this document must be obtained from the Logistics Management Institute.

LOGISTICS MANAGEMENT INSTITUTE
4701 Sangamore Road
Washington, D.C. 20016

EXECUTIVE SUMMARY

This study was undertaken by the Institute to identify causes of the trends in price competition in DoD acquisition. The findings reported herein relate to the reduction in the overall percentage of dollar obligations awarded through the use of price competition. The findings come from analysis of the DD-350 Individual Procurement Action Report and discussions with personnel representing various purchasing activities. The major findings are summarized below.

1. The apparent downtrend in the overall percentage of obligations made after price competition is real and not caused by obligations for a changed makeup of categories of supplies and services.
2. The decline is due to reduced competition in a few high dollar commodity and service categories.
3. Examination of those commodity and service categories responsible for the overall decline in competition reveals several explanations for the reduced levels of competition: the mechanics of the reporting system or judgmental reporting decisions, change in the nature of items within a commodity category or in the quantity of items procured, and the cyclical nature of major programs.
4. Real reductions in the level of competition have occurred in a limited number of categories. However, there is no evidence to support the hypothesis that changes in policy or administrative practices contributed to the decline in competition. The one exception is in high technology areas where design or technical competition has been increased at the expense of price competition.

This analysis of price competition was purposely limited in scope and did not address the other 60 to 70 percent of total obligations that includes programs, products, and services that rarely have been competed or have not been competed or competed successfully.

Accordingly, in response to a requirement in the original task order, LMI recommends an examination of DoD acquisition policies and practices to identify those circumstances in which competition is possible and desirable, and develop guidance for making the competition decision.

TABLE OF CONTENTS

	<u>Page</u>
Executive Summary	ii
<u>CHAPTER</u>	
1. INTRODUCTION	1- 1
2. FINDINGS AND CONCLUSIONS	2- 1
Rates of Competition	2- 1
Prime Contributors to the Decline	2- 3
Liquid Propellants, Fuels, and Fuel Oils	2- 5
Submarines	2- 7
Fixed Wing Aircraft	2- 8
Ammunition and Explosives	2- 9
Weapons	2-11
Engineering and Operational Systems Development	2-12
Electrical and Electronic Equipment Components	2-13
Subsistence	2-15
Awards of Less Than \$10,000	2-16
Summary of Findings	2-18
Coding Issues	2-18
Changes in Products and Technology	2-19
Reduced Demand Levels	2-19
Timing--Progression of Programs	2-20
Other	2-20
Conclusions	2-21
Plan for Phase II Study	2-22
3. METHODOLOGY AND STATISTICAL RESULTS	3- 1
Base Year Selection	3- 1
Selection of Commodity and Services Categories	3- 2
Definitions of Competition	3- 4
Statistical Analysis	3- 4
Results	3- 8

1. INTRODUCTION

This study was undertaken to identify trends in competitive acquisition by commodity, buying organization, and other groupings and to identify the causes for the decline. Phase 1 of the study was confined to analysis of the causes of the downward trend in competition. The more extensive work in Phase 2 will examine current acquisition policies, contracting methods, and levels of competition and establish the potential for, and the benefits of increasing competitive acquisitions in significant commodity and program areas.

Competition is a cornerstone of DoD's acquisition policies and procedures. Price competition refers to the situation where the Government specifies its need and relies on market forces to determine the price it pays for the product or service meeting that need. For price competition to exist, the Government must be able to define its requirements and there must be rival sources willing and able to satisfy the need. The price that results from effective competition is optimal in that it is the minimum price required to compensate the seller for resources expended, capital employed, and risks assumed.

DoD also recognizes a form of competition in addition to price. Qualified sources are asked to submit design or technical proposals to meet generally stated needs. Market forces are not strong enough to establish prices and selection is made primarily on the basis of evaluated design or technical proposals.

DoD uses data derived from the DD Form 350 Individual Procurement Action Report to measure the extent and type of competition obtained by its contracting activities. Individual contract actions over \$10,000 are assigned one of the following five codes:

1. Price competition -- for contract actions resulting from both formal advertising and negotiation, if offers are solicited and received from at least two

responsible offerors capable of satisfying the Government's requirements wholly or partially, and the award or awards are made to the offeror or offerors submitting the lowest evaluated prices.

2. Design or technical competition - when two or more qualified sources of supply are invited to submit design or technical proposals, with the subsequent contract award based primarily on this factor, rather than on price.

3. Follow-on after price competition. (See following discussion.)

4. Follow-on after design or technical competition - A follow-on contract is a new acquisition, either a separate contract or a supplemental agreement, when an earlier decision dictates placement with a particular contractor to continue or augment a specific military program. Follow-on contracts to initial contracts awarded after competition will be coded as follow-on after either price competition or design or technical competition.

5. Other noncompetitive - for contract actions which are neither competitive nor follow-on after competition.

Letter contract amendments, delivery orders against indefinite delivery type contracts, change orders, supplemental agreements, exercise of options, incremental yearly buys under multi-year contracts, and other modifying actions made pursuant to the terms of existing contracts are coded the same as the basic contract to which they apply.

We analyzed DD 350 data for a base year, fiscal 1972 and for the most recent year, fiscal 1978. Selection of FY72 as the base year is explained in Chapter 3. Data for DoD components were broken out for six categories of RDT&E, 16 categories of other services and construction, and 105 categories of supplies and equipment identified by both two and four-digit Federal supply classification codes.

Total dollars obligated increased from \$36.8 billion in FY72 to \$59.4 in FY78 and the percentage of price competition decreased from 36% to 28%. It was thought, going into the study, that the decline in competition might be caused by a shift in the kinds of things being bought, that relatively greater dollars were being expended for products or services, such as utilities, that had not and could not be purchased competitively. Our first action was to test this possibility by calculating an overall rate of competition for FY78 by applying FY72's competitive rates, by categories, to the FY78 dollars for the same categories. (For example, dollars obligated in FY78 for weapons, FSC 10, were multiplied by the FY72 competitive rate for the weapons category.) The result of this computation, however, was a slightly higher overall competitive rate for FY78 than was actually realized in FY72. We therefore concluded that, on balance, the observed decline in price competition was not caused by a significant shift in the mix of things contracted for. We found, in subsequent analysis, that the overall decline was caused by sharp changes in rates of obligations and extent of competition in a relatively few categories of goods and services. Chapter 2 sets forth the results of this analysis and identifies nine categories as the principal contributors to the lower rate of price competition.

2. FINDINGS AND CONCLUSIONS

RATES OF COMPETITION

Table 2-1 compares DoD dollars obligated in FY72 and FY78 as a result of price competition, design or technical competition, follow-ons, and other noncompetitive actions. (Summary data for contract actions under \$10,000 have been added to the DD 350 totals for price competition and other noncompetitive.)

TABLE 2-1
EXTENT OF COMPETITION
WITHIN DOD, FYs 72 and 78

	<u>FY72</u>		<u>FY78</u>	
	<u>Dollars (Millions)</u>	<u>%</u>	<u>Dollars (millions)</u>	<u>%</u>
Price competition	\$13,116	36%	\$16,322 <i>14</i>	28%
Design or technical	2,616	7	6,063 <i>14</i>	10
Follow-on	6,791	18	9,762 <i>16</i>	16
Other noncompetitive	<u>14,273</u>	<u>39</u>	<u>27,246</u> <i>24</i>	<u>46</u>
Total	\$36,796	100%	\$59,393	100%

While 61% more dollars were obligated in FY78, the percentage obligated by price competitive actions was down eight points from FY72. Design or technical competition rose three points, follow-ons fell two points, and other noncompetitive dollars increased seven points.

In analyzing competition in individual commodity categories, we found significant variations among the Services which could be attributed to different coding practices. Table 2-2 for gas turbines and jet engines, FSC 2840, portrays one such case:

TABLE 2-2
EXTENT OF COMPETITION, FOR FSC 2840,
FY72 and FY78 (NAVY & AIR FORCE)

	Navy		Air Force	
	FY72	FY78	FY72	FY78
Price competition	\$ 589	\$ 808	\$ 8,141	\$ 22,442
Design or technical	0	0	80,700	133,077
Subtotal	\$ 589	\$ 808	\$ 88,841	\$ 155,519
Follow-on	59,823	64,119	399,464	1,560,253
Other noncompetitive	248,887	250,521	31,164	141,329
Total	\$309,299	\$315,448	\$ 519,469	\$1,857,101

Navy and Air Force are the principal buyers and users of aircraft turbines and jet engines and both contract with the same manufacturers under essentially the same conditions using essentially the same methods. Converting the dollars in Table 2-2 to percentages in Table 2-3 highlights different patterns for the two Services:

TABLE 2-3
PERCENTAGE OF TOTAL FSC 2840 OBLIGATIONS
BY EXTENT OF COMPETITION
FY72 and 78 (NAVY AND AIR FORCE)

	NAVY		AIR FORCE	
	FY72	FY78	FY72	FY78
Price competition	0.2%	0.3%	1.6%	1.2%
Design or technical	0	0	15.5	7.2
Follow-on	19.3	20.3	76.9	84.0
Other noncompetitive	80.5	79.4	6.0	7.6

Whereas about 80% of the Navy obligations in both years were for noncompetitive contract actions, more than 90% of Air Force obligations in both years were for design or technical and follow-on contract actions; relatively few dollars were coded noncompetitive.

Table 2-4 also shows differences in the pattern of obligations coded for engineering and operational systems development (A4 and A5), with the Army and Navy showing relatively greater use of noncompetitive actions and the Air Force using more design or technical competition.

TABLE 2-4
CODING OF A4 and A5 OBLIGATIONS BY SERVICE,
FY72 and 78

	<u>ARMY</u>		<u>NAVY</u>		<u>AIR FORCE</u>	
	<u>FY72</u>	<u>FY78</u>	<u>FY72</u>	<u>FY78</u>	<u>FY72</u>	<u>FY78</u>
Price competition	1.6%	0.2%	27.3%	0.2%	2.5%	3.5%
Design or technical	14.9	36.3	16.3	33.2	66.7	57.4
Follow-on	18.6	26.1	14.8	25.0	19.1	15.4
Other noncompetitive	64.9	37.4	41.6	41.6	11.7	23.7

PRIME CONTRIBUTORS TO THE DECLINE

Decreased price competition in relatively few commodity and services categories has caused the downward trend. These decreases have been accompanied by relatively high dollar obligations. Table 2-5 identifies the principal categories contributing to the lower rate of price competition in FY78 and lists the values of their individual contributions.

TABLE 2-5
TOP CONTRIBUTORS
TO DECLINE IN PRICE COMPETITION

<u>Category</u>	<u>Percentage Points Contributed</u>
Liquid propellants, fuels and fuel oils (Code 9130 & 9140)	3.2
Submarines (Code 1904)	1.9
Aircraft, fixed wing (Code 1510)	1.6
Ammunition and explosives (Code 13)	0.6
Weapons (Code 10)	0.3
Engineering and operational system development (Codes A4 and A5)	0.3
Electrical and electronic equipment components (Code 59)	0.2
Subsistence (Code 89)	0.2
Under \$10,000	0.1

We have identified the factors that contributed to changes from FY72 to FY78 for these significant categories. The findings come from interviews of contracting officials responsible for awards in these categories and, in some cases, through review of contract files. We discuss our specific findings in the following segments and then present summary findings and conclusions and a plan for further study of competition.

Liquid Propellants, Fuels, and Fuel Oils (9130 and 9140)

The total obligations for fuel categories 9130 (liquid propellants and fuels) and 9140 (fuel oils) have increased substantially in absolute dollars, from \$1.3 billion to \$4.4 billion, and relative to the total value of all DoD obligations (see Table 2-6.) In FY78, these categories accounted for 7.4% of total DoD obligations, more than double the percentage in FY72. DLA purchases accounted for 99 percent of total DoD dollar obligations for fuel.

TABLE 2-6
OBLIGATIONS FOR LIQUID PROPELLANTS, FUELS,
AND FUEL OILS, FY72 AND 78

<u>Fiscal Year</u>	<u>All DoD</u>			<u>Percent Price Competitive</u>
	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>		
72	\$1,317	3.6%		90.1%
78	\$4,415	7.4%		45.3%
<u>DoD COMPONENTS</u>				
<u>Fiscal Year</u>	<u>Component</u>	<u>Dollars (Millions)</u>	<u>Percent Total 9130/9140 \$</u>	<u>Percent Price Competitive</u>
72	DLA	\$1,304	99.0%	90%
78	DLA	\$4,390	99.4%	45%

The drastic reduction in competitive dollar obligations to about half the rate achieved in FY72, plus the drastic increase in dollar obligations, combine to make fuel the single commodity category most responsible for DoD's downtrend in competition (3.25 percentage points worth.)

Prior to the oil embargo in late 1973 and early 1974, the Defense Fuel Center (DFC) used invitations for bids (IFBs) to solicit multiple bids for its annual fuel buys. Market conditions were such that total bid quantities (called coverage) exceeded total

requirements by a substantial margin. The embargo led DFC to use negotiation, rather than formal advertising, in placing its contracts for domestic requirements. Purchases abroad are still made with IFBs.

For FY78, domestic purchases were solicited by RFPs. Offerers responded by stating their prices and the quantities they were willing to supply and providing sales and price data for the prior three-month period. DFC analyzed their data to determine a competitive or market range to be used by the negotiator. Initial offers were evaluated to determine the least-cost buy which satisfied the Government's requirement. Initial negotiations were held and tentative prices determined. Based on these negotiated prices, evaluations were again made to determine the least-cost buys. Finally, multiple awards were made to satisfy requirements using negotiated prices and quantities.

DAR 21.126(c) states that multiple awards resulting from one solicitation may be reported as price competitive even though the total quantity of the solicitation is not awarded, but the decision is left to the contracting officer. DFC has concluded that its multiple source fuel awards will not be coded as price competitive unless more than 120% of the total amount solicited has been offered. As a consequence, domestic purchases have been coded as noncompetitive; total offers have fallen below 120% of requirements. Most foreign purchases are coded as price competitive because coverage usually exceeds 120% of requirements.

This 120% coverage criterion may not be a suitable measure of the presence or absence of price competition. It is a surrogate for whether or not potential offerors know beforehand that all offers will have to be accepted for the Government to meet its requirements. However, it does not necessarily follow, absent collusion, that offerors know beforehand that all offers will be accepted even though less than 120% or, indeed, less than 100% of the requirement is actually offered.

An additional problem is that the multiple awards are coded either as price competitive or noncompetitive, even though price rivalry may be present within markets. In any given market, offers may cover far more than the quantity required, but the aggregate quantity relative to the total requirement determines the coding for the entire solicitation.

In summary, there appears to be no logical basis for the 120% coverage criterion for determining the extent of competition. The real issue is the extent to which suppliers believe that the Government will accept their offers at any price in order to have commitments for the total requirement. It is not clear that coverage properly reflects this condition. Even if this were the case, the requirement itself may be adjusted downward, if necessary. Because the total requirement is made up of specific quantities for specific geographic areas, individual awards could be separately coded to reflect the extent of competition.

Submarines (1904)

The large decline in price competition combined with the large increase in dollars obligated to make submarines the second largest contributor to the overall decline in price competition.

The price competition recorded in FY72 covered modifications and changes to contracts for class 688 submarines initially competed in prior years between two contractors, Electric Boat and Newport News. The 91.7 point decline recorded in competition (see Table 2-7) occurred because a different program accounted for the preponderance of dollar obligations in FY78. The FY78 obligations were for the Trident program awarded noncompetitively.

TABLE 2-7
OBLIGATIONS FOR SUBMARINES, FY72 and 78

ALL DoD¹

<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>
72	\$ 305.6	0.8%	98.4%
78	\$1,241.0	2.1%	6.7%

¹Navy the only buyer of submarines.

In addition, the Navy has reduced its use of Government-furnished equipment in favor of contractor-furnished equipment. The consequence is that the dollars obligated for these items are part of and coded the same as the prime contract (noncompetitive) even though the prime might compete them. However, subcontract actions are not covered by the current reporting system.

Fixed Wing Aircraft (1510)

Fixed wing aircraft accounted for 6.0% of the total DoD obligations in FY78 and for 1.6 points of the decline in price competition from FY72. However, few of the dollars coded price competitive in either year were obligated by initial awards; most were obligated by modifications to existing contracts awarded in previous years.

This fact explains both the 27.4% rate in FY72 and the 1.7% rate in FY78 (see Table 2-8.) The price competitive contracts modified in FY72 were for the F-14 (Navy) and C-5 (Air Force) aircraft. Both initial contracts were closed out between 1972 and 1978. Later contracts for these aircraft were coded follow-on after price competition. Newer aircraft programs such as the F-15, F-16, and A-10, were awarded after design or technical competition, not price competition. These two factors, the follow-on buys and the increased proportion of dollars obligated after design or technical competition, effectively eliminated any opportunity to code significant fixed wing aircraft acquisitions as price competitive in FY78.

TABLE 2-8
OBLIGATIONS FOR FIXED WING AIRCRAFT,
FY72 and 78

Fiscal Year	ALL DoD			
	Dollars (Millions)	Percent of Total Obligations	Percent Price Competitive	Percent Design or Technical
72	\$3,158	8.6%	27.4%	0.9%
78	\$3,590	6.0%	1.7%	33.7%
DoD COMPONENTS				
Fiscal Year	Component	Dollars (Millions)	Percent Total 1510 \$	Percent Price Competitive
72	Navy	\$1,808	57.2%	17.9%
	Air Force	1,350	42.7	40.1
78	Navy	\$1,086	30.3%	1.7%
	Air Force	2,465	68.7	1.7

There has been a shift in acquisition policy to select a major system and its producer after design and technical competition. Competitions in the late sixties were price competitive fixed-price incentive, total package contracts. The total package concept has since been discarded and fixed-price instruments, for the most part, are restricted to follow-on acquisitions of production quantities. This change obviously has reduced the potential for price competition in this category.

Ammunition and Explosives (13)

Contract actions in this category accounted for more than two percent of total FY78 obligations, down 2.4 percentage points from its FY72 share (see Table 2-9.) This was caused by a drop in requirements that cut into the kinds of products that could be bought competitively. The Army, which is the dominant DoD component for ammunition, maintains a network of Government-owned, contractor-operated (GOCO) plants to which work is assigned without competition. Even though 14 of the 26 GOCOs

operating in FY72 have been shut down, the remaining 12 account for a substantial share of the total dollars obligated. When possible, metal parts used by the GOCOs to load, assemble, and pack ammunition are bought competitively in the private sector for shipment to the GOCOs. The results reflect the fact that mobilization base considerations take precedence over competition in acquisition strategies in periods of relatively low demand.

TABLE 2-9
OBLIGATIONS FOR AMMUNITION AND EXPLOSIVES,
FY72 and 78

ALL DoD					
<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>	
72	\$1,654	4.5%	64.5%	0.5%	
78	\$1,270	2.1%	35.2%	1.8%	
DoD COMPONENTS					
<u>Fiscal Year</u>	<u>Component</u>	<u>Dollars (Millions)</u>	<u>Percent Total 13 \$</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>
72	Army	\$922	55.7%	81.9%	0.7%
	Navy	507	30.6	47.3	---
78	Army	\$684	53.9%	39.9%	1.5%
	Navy	348	27.4	21.7	0.1

The Navy was responsible for about 30% of the obligations in this category, and the Sea Systems Command for about 80% of the Navy total. This Command was not able to explain why the percentage of price competitive obligations fell as the volume of dollar obligations fell. A review of the FY78 awards confirmed the coding and dollar obligations and indicated that FSC 1338, guided missiles and space vehicle inert

propulsion units, solid fuel, and components, and FSC 1355, torpedo inert components were the major commodities purchased in FY78. Again, it is likely that reduced requirements left a concentration of awards in subcategories where competition was not possible. However, if there is a continuing demand for these items, the Navy might be justified in incurring the cost of obtaining second sources.

Weapons (10)

Weapon acquisitions accounted for 0.9% of obligations in FY78, up in dollars and rate from FY72, and activity was spread over the Army, Navy, and Air Force (see Table 2-10.)

TABLE 2-10
OBLIGATIONS FOR WEAPONS,
FY72 and 78

<u>ALL DoD</u>					
<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>	
72	\$173	0.5%	50.2%	0.0%	
78	\$545	0.9%	14.7%	3.5%	
<u>DoD COMPONENTS</u>					
<u>Fiscal Year</u>	<u>Component</u>	<u>Dollars (Millions)</u>	<u>Percent Total 10 \$</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>
72	Army	\$ 64	37.0%	69.2%	---%
	Navy	93	53.8	30.3	---
	Air Force	16	9.2	90.0	---
78	Army	\$140	25.7%	49.9%	0.2%
	Navy	300	55.0	1.7	2.6
	Air Force	104	19.2	4.7	10.5

The Navy's contract actions in both years were principally noncompetitive. The large increase in dollar obligations and the drop in price competition are largely, but not exclusively, accounted for by a single \$196 million contract with RCA, which was awarded after a design/technical competition. Nevertheless, if the remaining contract actions had maintained the FY72 level of competition, the rate would have been around 10%. Instead, competition dropped to 1.7%. We were not able to isolate the causes of this decline beyond what is attributable to the single large award to RCA.

The Air Force, though obligating relatively few dollars in FY72, reported 90% as price competitive. This dropped sharply to five percent in FY78. The Armament Development & Test Center, which reported 100% price competition in FY72, had no FSC Code 10 contract actions in FY78. Warner Robins ALC reported 80% of FSC Code 10 dollars as price competitive in FY72, but only 7.4% of \$65.6 million as price competitive in FY78. In FY78, most Air Force requirements led to follow-on buys of weaponry from the original manufacturers.

The Army maintains two arsenals, but most work is performed in the private sector and material such as forgings used by an arsenal is acquired competitively whenever possible. The principal impediment to increasing competition is the relatively small quantities required.

Engineering and Operational Systems Development (A-4 and A-5)

The 1972 price competition rate of 10.4% (see Table 2-11) resulted, for the most part, from NAVAIR modifications to contracts awarded in preceding years after price competition. NAVAIR contract actions accounted for only 18% of the DoD dollars obligated for these developmental efforts in FY72, but it contributed 81% of the DoD price competitive dollars. In both FY72 and FY78, design or technical competitions accounted for more than 40% of the A4 and A5 dollars and FY78 noncompetitive dollars were 35% of the total, an increase of four percentage points.

TABLE 2-11
OBLIGATIONS FOR ENGINEERING AND OPERATIONAL SYSTEMS DEVELOPMENT
FY72 and 78

<u>ALL DoD</u>					
<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>	
72	\$3,332	9.1%	10.4%	41.0%	
78	\$5,095	8.6%	1.3%	41.8%	
<u>DoD COMPONENTS</u>					
<u>Fiscal Year</u>	<u>Component</u>	<u>Dollars (Millions)</u>	<u>Percent of Total A-4/A-5 \$</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>
72	Army	\$ 592	17.8%	1.6%	14.0%
	Navy	1,087	32.6	27.2	16.3
	Air Force	1,653	49.6	2.5	66.7
78	Army	\$1,320	25.9%	0.2%	36.3%
	Navy	2,119	41.6	0.2	33.2
	Air Force	1,648	32.4	3.5	57.4

It is logical that success in competing for engineering and operational system developments should depend on design or technical considerations rather than price. It also is logical that any engineering effort involving improvement or modification of systems already in the inventory would not be competed but instead would be awarded to the contractors who had developed and produced the systems.

Electrical and Electronic Equipment Components (59)

The dollar value of individual contract actions in this category typically is small, even though the total has a significant impact on the overall price competition percentage, and actions are handled by a great number of contracting organizations within each DoD component. The coding includes 22 different groupings of components including

resistors, switches, relays and solenoids, and electrical hardware and supplies. Many of the products would seem to be available competitively from commercial sources. However, the percentage of dollars obligated by price competition does not approach the level one would expect for commercial items (see Table 2-12.)

TABLE 2-12
OBLIGATIONS FOR ELECTRICAL
AND ELECTRONIC EQUIPMENT COMPONENTS,
FY72 and 78

<u>ALL DoD</u>					
<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>	
72	\$304	0.8%	41.3%	3.6%	
78	\$658	1.1%	24.2%	12.5%	
<u>DoD COMPONENTS</u>					
<u>Fiscal Year</u>	<u>Component</u>	<u>Dollars (Millions)</u>	<u>Percent Total 59 \$</u>	<u>Percent Price Competitive</u>	<u>Percent Design or Technical</u>
72	Army	\$ 86	2.85%	53.1%	11.1%
	Navy	93	30.6	15.3	0.3
	Air Force	17	5.6	22.5	6.1
	DLA	104	34.4	56.5	---
78	Army	\$104	15.9%	15.2%	33.7%
	Navy	157	23.9	13.0	0.7
	Air Force	132	20.1	10.2	15.3
	DLA	160	24.3	47.8	---

Price competition decreased from 41% to 24%, and contracting officials attributed this to a variety of causes. Most frequently cited was the continued need to buy repair parts and replacements for old equipments still being used, even though some had become obsolete. Often, commercial technology has advanced beyond the state required by DoD, which limits the number of sources from which equipment and

components can be purchased. In other cases, military specifications limit the potential for competition. Vacuum tubes, which account for 25% of DLA's obligations in this category, are one example. Small quantity annual buys, at a volume insufficient to support more than one source or to attract new suppliers, is another. DoD must buy these small quantities from distributors rather than the original manufacturers.

Subsistence (89)

DoD obligations for subsistence consist of expenditures for troop issue and both generic and brand name items for commissary resale. Inflation has increased the dollars obligated in this category, but subsistence has remained at a stable 2% of the total of DoD obligations with DLA obligating about 70% of the awards in both FY72 and FY78 (see Table 2-13.)

TABLE 2-13
OBLIGATIONS FOR SUBSISTENCE,
FY72 and 78

<u>ALL DoD</u>				
<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>	
72	\$ 884	2.0%		71.4%
78	\$1,270	2.0%		59.9%
<u>DoD COMPONENTS</u>				
<u>Fiscal Year</u>	<u>Component</u>	<u>Dollars (Millions)</u>	<u>Percent Total 89 \$</u>	<u>Percent Price Competitive</u>
72	Army	\$176	19.9%	56.7%
	Air Force	69	7.8	43.2
	DLA	606	68.5	78.8
78	Army	\$212	16.7%	52.3%
	Air Force	129	10.2	25.3
	DLA	877	69.0	68.3

We discussed this commodity category with officials of the Defense Personnel Support Center's Directorate of Subsistence. The decline in price competition can be traced to the increased share of dollar obligations in the brand name category. This has occurred because purchases for commissary resale have grown from about 25% of total dollars obligated in FY76, the earliest year for which this detail was available, to nearly 32% in FY78. The 32% spent on brand name items corresponds to the percentage of noncompetitive obligations reported by DLA. Brand name items are proprietary and not subject to price competition when purchased by DLA. Of course, the ultimate consumer can be expected to choose among competing brands of similar quality depending on resale price and brand preference. Reasons offered for the increase in the importance of commissary items include increased numbers of retirees, inflation in food prices making it more attractive to patronize a commissary, and increased use of allowances for off-base feeding of military personnel.

It therefore appears that a factor beyond the control of DLA, namely commissary resale of brand name items, is driving the downward trend in competition. It would seem reasonable to code these items as a separate category from troop feeding and non-brand name purchases. Separate coding would make possible year-to-year comparisons of the extent of competition against the obligations that can be competed.

Awards of Less Than \$10,000

Procurement actions of \$10,000 or less are aggregated and reported monthly by each DoD purchasing office on DoD Form 1057. Total number and dollar value of actions are broken down as between competitive and noncompetitive. Modifications are not identified separately nor is there commodity coding. As a result, we treated the aggregate data as a separate commodity.

The relative value of total obligations in this largest of the 127 categories is declining, probably because inflation is pushing more items over the \$10,000 ceiling. Although we did not attempt to identify the commodities in this category, we did learn that subsistence, textiles, electronic and electrical components, and other commercial type items are heavily represented. However, single source items such as unique spare parts are also represented. Because this is a large dollar category, the 3.8 percentage point drop in competition contributed significantly to the overall decline in competition (see Table 2-14.)

TABLE 2-14
OBLIGATIONS FOR AWARDS
OF LESS THAN \$10,000,
FY72 and 78

<u>ALL DoD</u>			
<u>Fiscal Year</u>	<u>Dollars (Millions)</u>	<u>Percent of Total Obligations</u>	<u>Percent Price Competitive</u>
72	\$3,500	9.5%	42.8%
78	\$4,969	7.9%	39.0%

Awards of \$10,000 or less would appear to offer high potential for competition or at least the potential to regain the level of competition achieved in FY72. However, we do not know the extent to which the following factors maybe affecting the decline in competition:

- the extent to which brand name subsistence items influence the dollar obligations in this category. These items cannot be competed and would mask trends in other items if they become a bigger share of the total dollars obligated
- the administrative costs to the Government of competing these small dollar awards and whether they would outweigh savings in price resulting from competition

- the fact that only single sources are available for certain items either because they are commercially obsolete (e.g., vacuum tubes), or because the market is small and limited to the Government's unique requirement.

SUMMARY OF FINDINGS

The following findings apply to all DoD purchases, even though they were derived from consideration of high dollar categories where price competition has declined the most since FY72.

Coding Issues

Reporting requirements make it difficult to determine the extent of price competition, a result compounded by the dynamic nature and scale of DoD acquisition programs. In addition, we found instances where administrative decisions led to questionable coding.

With reference to reporting, we found that the DAR requires that delivery orders, change orders, definitizations of letter contracts, and other modifying actions made pursuant to the terms of existing contracts are to be coded the same as the basic contract to which they apply, even though such actions are consummated in a noncompetitive environment. In the case of modifications to contracts awarded after price competition, we found that this leads to overstatement of competitive dollars for many, but not all, categories of products and services. Exercise of priced options in transportation services and issuance of orders against priced indefinite delivery and indefinite quantity contracts are price competitive actions.

In addition, the aggregation of actions into a two-digit FSC category disguises changes in the relative importance of different items within the category. Finally, there presently is no visibility of subcontract dollars in the DD 350 system. This can understate

the level of overall competition to the extent that the prime contractor achieves price competition in subcontracting. Changes from GFE to CFE can also reduce the level of price competition reported even though no real change has occurred.

Administrative issues in coding are illustrated by the different patterns of competition reported for jet engines by the Air Force and Navy and by the shift away from price competition in fuels. Although guidance in DAR Section XXI cannot and should not address all conceivable situations, OSD should provide specific guidance for judgmental decisions such as these that affect major dollar awards.

Changes in Products and Technology

Demand changes within FSC product codes alter the ability of procuring offices to achieve competition. A corollary change occurs in the supply side of the market when, for a variety of reasons, products required by the DoD are no longer available from multiple sources.

Submarines illustrate the first case. FY78 data were dominated by the TRIDENT submarine which was procured noncompetitively. On the other hand, FY72 obligations consisted of modifications to a different submarine class awarded earlier after price competition. The second case is illustrated by vacuum tubes, low volume items built to military specifications, and other electronic items, where DoD continued to need unique or commercially obsolete items that had long since been phased out of commercial production.

Reduced Demand Levels

The base year, FY72, reflected demand levels for certain items based on wartime requirements. In subsequent years, as demand declined, mobilization base considerations justified allocating the reduced requirements among two or more sources so as to maintain an industrial capability. Examples of this were found in textile,

ammunition, and weapon categories. Although this has been a longstanding policy, there may be alternatives which are more beneficial to DoD.

*Why we must look
at long term trends*

Timing-Progression of Programs

Selection of any two years for study introduces elements of chance and distortion into subsequent comparisons and analyses. For one thing, programs begin and end at different times. For another, most DoD acquisition programs continue across a number of fiscal years in an ordered progression from exploratory research through succeeding stages of development and test to production and, finally, completion and phase out. The usual pattern for a system acquisition might show design or technical competition among two or more companies from program inception through selection of one system for production. After that, there will be buys of additional quantities in succeeding fiscal years and there may be, but usually is not, price competition for production quantities. However, during production, certain subsystems, components, and equipment may be broken out for competitive acquisition or for direct acquisition from the companies that make them.

This effect was noted in submarines and fixed wing aircraft.

Other

Other causes of reduced competition include:

- reduced domestic production capability because of foreign competition
- administrative cost to compete
- cost for potential suppliers to comply with Government administrative requirements
- low or uncertain demand that does not justify the investment needed in order to compete
- late budget approval that compresses leadtime needed to establish competition.

CONCLUSIONS

This Phase 1 analysis showed that, on balance, the decline in price competition was not caused by a shift in dollar obligations to categories of products and services that could not be procured competitively.

Some of the differences between FY72 and FY78 rates can be explained by the the DD 350 reporting system itself. The DD350 is a report of individual transactions, as if each transaction stood alone, whereas much of the acquisition process is geared to programs which require a great number of transactions and cover several years. As a consequence, analysis tends to explain differences between two periods but not necessarily the underlying conditions which can only be inferred.

We pinpointed the relatively few categories of products and services that contributed to the eight point difference in rates of price competition in FY 72 and 78, and identified why the FY78 rate was lower. For fuels, the relatively low percentage of price competition reported in FY78 is attributable to an administrative decision as to the coverage that must be attained from responses to the multiple source solicitation of offers against the stated total requirement. While there has been significant changes in the fuel markets in the intervening years, there are reasons to question the all-or-nothing result obtained by applying the 120% rule; analysis of responses within specific geographic areas for particular fuels might lead to a conclusion that price competition exists within an area and sets the prices of individual contracts.

In looking at categories that include major weapon systems, such as fixed wing aircraft, we found that FY72 data included modifications of active contracts, awarded after price competition in prior years. In accordance with DAR, those modifications were correctly coded as price competitive actions. FY78 presented a different profile. The major system contracts that accounted for most dollars in that year had been awarded before FY78 and were coded either design or technical competition or follow-on after

competition. Whereas there are valid reasons why military aircraft competitions should be decided on bases other than lowest evaluated cost to the Government, design or technical competition is not recognized universally as an alternative to price competition. We believe it should be.

While the FY78 price competition rate was under 30% of total dollars obligated by DoD, and it is likely that a greater proportion of dollars can be obligated by competition in the future, some significant part of the other 70% will not be available for competitive awards. A quick fix would be to issue new instructions for judging the existence of competition in fuel buys and isolating brand name subsistence purchases.

*& IT was
TAKEN ??*

The longer range effort should include several different initiatives. If the reporting system can be refined to give more precise results, it should be. If more universally accepted definitions of competition can be devised, they should be. If a more realistic standard than total dollars obligated can be established as a basis of comparison, it should be. If policies and procedures can be revised to enhance real competition, they should be.

Those results are the objectives of the second phase of this study.

PLAN FOR PHASE II STUDY

Subtask 5 of Task Order RE907 requires LMI to develop a plan for a second phase effort to evaluate and expand current DoD acquisition policies and contract methods to enhance competition. To attain an optimum level of competitive acquisitions, DoD must be assured that:

- Definitions of competition are realistic in relation to today's environment
- Acquisition planning takes into account all material factors in deciding whether or not to compete
- Definitions and factors are appropriate to the circumstances governing acquisition of diverse categories of products and services

Therefore, LMI proposes to undertake a follow-on study in accordance with the following statement of work:

Statement of Work

a. Background. LMI undertook a first phase examination of trends in price competition to identify commodity and program categories where competition had declined over the past several years. This analysis revealed that the decline in overall price competition was concentrated in a limited number of commodity and service categories, and was influenced by special factors that are generally unrelated to basic DoD acquisition policies and procedures.

The first phase assignment was to focus on the reasons for continued decline; the examination of why 60% or more of the total DoD obligations continue to be noncompetitive would be part of a follow-on study.

b. Objective. To examine DoD acquisition policies and practices by major categories and program phases to identify those circumstances in which competition is possible and desirable, and to develop guidance for making the competition decision.

c. Scope of Work.

(1) Examine and identify the procurement methods, practices, and procedures by categories of commodity and services and by program. Characteristics and conditions where competition is and is not used will be catalogued and compared across DoD components, technology, program phases, and other elements which appear to influence the decision to compete.

(2) Based on review of the data generated in (1), and on DoD reporting conventions, evaluate forms of competition within DoD and redefine if necessary.

(3) Using the definitions identified in (2) and applying such definitions to the data developed under (1), hypothesize policies and guidance for determining when competition is economically advantageous or otherwise appropriate for specific categories of supplies and services.

(4) From the hypothesized policies developed in (3) above, evaluate, select, and recommend a competition decision process for the DoD.

We believe this plan would require at least two man-years of effort to accomplish.

3. METHODOLOGY AND STATISTICAL RESULTS

We needed to decide if the apparent downward trend in price competition were real, and if so, to identify the factors causing it. Accordingly, we analyzed the DD350 data to determine the extent to which factors beyond DoD's control contributed to the decline, and how much of the apparent decline was caused by reduced competition in specific commodity areas. We took the following steps:

- selected a base year for comparison with the most recent year's data
- selected commodity and services group breakouts to provide a manageable and significant level of detail
- defined the types of competition to be examined
- developed a method for analysis which would characterize the apparent trend into its causal elements

Each step is described in the following discussions.

BASE YEAR SELECTION

FY78 is the most recent year for which complete data from the procurement management reporting system are available. The base year chosen should be one in which economic conditions approximated those of FY78 so as to normalize their effects on competition. For example, a slack economy is likely to promote competition because contractors generally are eager for business. The business cycle is therefore likely to affect the extent of competition. An increase in the volume of defense purchases is likely to bring defense requirements into competition with civilian needs for available production capacity and resources, thereby reducing competition for defense contracts. These considerations led us to examine two measures of economic conditions: the amount of defense purchases relative to the purchases by the entire economy and the rate of capacity utilization in the economy at large as a measure of business cycle conditions.

Sweeping generalization

Table 3-1 displays the comparative statistics for GNP, the defense budget, defense procurement, and capacity utilization. These data show a decline in the ratios of the DoD budget and procurement to GNP, although the ratio of procurement to GNP has stabilized at about 2.75% since FY73. Capacity utilization varies with business conditions. The period most comparable to FY78 in terms of capacity utilization occurred in a period overlapped by FY 72 and 73. In this period, procurement volume as a percentage of GNP was comparable to the rate for FY78.

On the basis of these measures, we selected FY72 as the base year. Two additional reasons influenced that selection. To go back past FY72 would place a heavy demand on contracting officials to recall events which influenced decisions that caused changes in the extent of competition. Secondly, FY72 is the last year for "clean" statistics in the area of fuel purchases. The fuel embargo in 1973 was followed by mandatory allocations to the Government which affected the level of competition in that important commodity category.

SELECTION OF COMMODITY AND SERVICES CATEGORIES

The DD 350 classifies awards on three bases: 4-digit Federal supply class or services code, a 3-digit weapon system or equipment code, and one of 25 claimant program codes. We picked the Federal supply class or services codes as most meaningful because they identify generic commodity and services categories. In contrast, weapon system breakouts examined for FY72 and FY73 are influenced by the timing of awards within each system's acquisition cycle. Finally, the 25 claimant programs are too broad to capture meaningful changes in competition and could mask significant changes. *why?*

Using the Federal supply class or services codes, we selected 127 categories believed to be significant. For example, the two-digit code 15 for aircraft includes four subgroups: fixed wing, rotary wing, gliders and drones, and airframe structural components. We obtained data for the four subgroups instead of the overall category.

TABLE 3-1
BASE YEAR COMPARATIVE STATISTICS
(DOLLARS IN BILLIONS)

FY	(1) PRICE COMPETITION	(2) GNP	(3) DEFENSE BUDGET**	(4) BUDGET/GNP	(5) DEFENSE PROCUREMENT	(6) PROCUREMENT/GNP	(7) CAPACITY UTILIZATION
69	35%	901	\$ 78.9	8.8%	\$41	4.5%	85%
70	38	956	78.7	8.2	34	3.6	83
71	36	1008	72.9	7.2	33	3.3	80
72	34	1096	74.3	6.8	36	3.3	81
73	34	1220	73.2	6.0	34	2.8	85
74	33	1349	75.3	5.6	36	2.7	84
75	30	1440	80.6	5.6	40	2.8	78
76	30	1527	86.0	5.6	41	2.7	80
77	27	1791	89.5	5.0	49	2.8	82
78	26	2043	102.1	5.0	56	2.7	83

Sources:

2,3 Economic Report of the President

1,5 DoD Procurement Reporting System; "Competitive vs Non-Competitive Military Procurements by Department," WHS, Directorate for Information Operations and Reports

7 U.S. Dept. of Commerce, Bureau of Economic Analysis, Survey of Current Business, July 1974 and each October thereafter

*Traditional definition of competition

**Government purchases of goods and services for national defense

When we thought less detail would be needed, we asked for the two-digit FSC category (e.g., code 10 for weapons). This approach produced six categories for RDT&E services, 16 categories for other services and construction, and 105 categories for supplies and equipment. In addition, awards under \$10,000 were treated as a separate category because they were not identified to commodities or services.

DEFINITIONS OF COMPETITION

Individual procurement actions over \$10,000 are identified in the DD 350 as to the kind of procurement action, the method of placement, and the extent of competition. From these reports, we received data for dollars obligated as initial awards placed by formal advertising or competitive negotiation, modifications of or orders against existing contracts, and definitizations of initial letter contracts that were awarded after price competition; dollars obligated following design, technical, or other competition; awards placed as follow-on actions to previous awards made after price or design, technical or other competition; and other noncompetitive.

*This means 92%
14% & 9% respectively of total
awards were due to mods.*

Figure 3-1 compares the percentage distribution of award dollars in each category for FY72 and 78. The percentage of dollars initially awarded after price competition fell from 22% to 19% over this period. Total price competition (initial awards plus modifications and orders) fell from 36% of total dollar awards in FY72 to 28% in FY78, owing to declines of five percentage points in the value of modifications, orders, and letter contract definitizations, and three percentage points in initial competition.

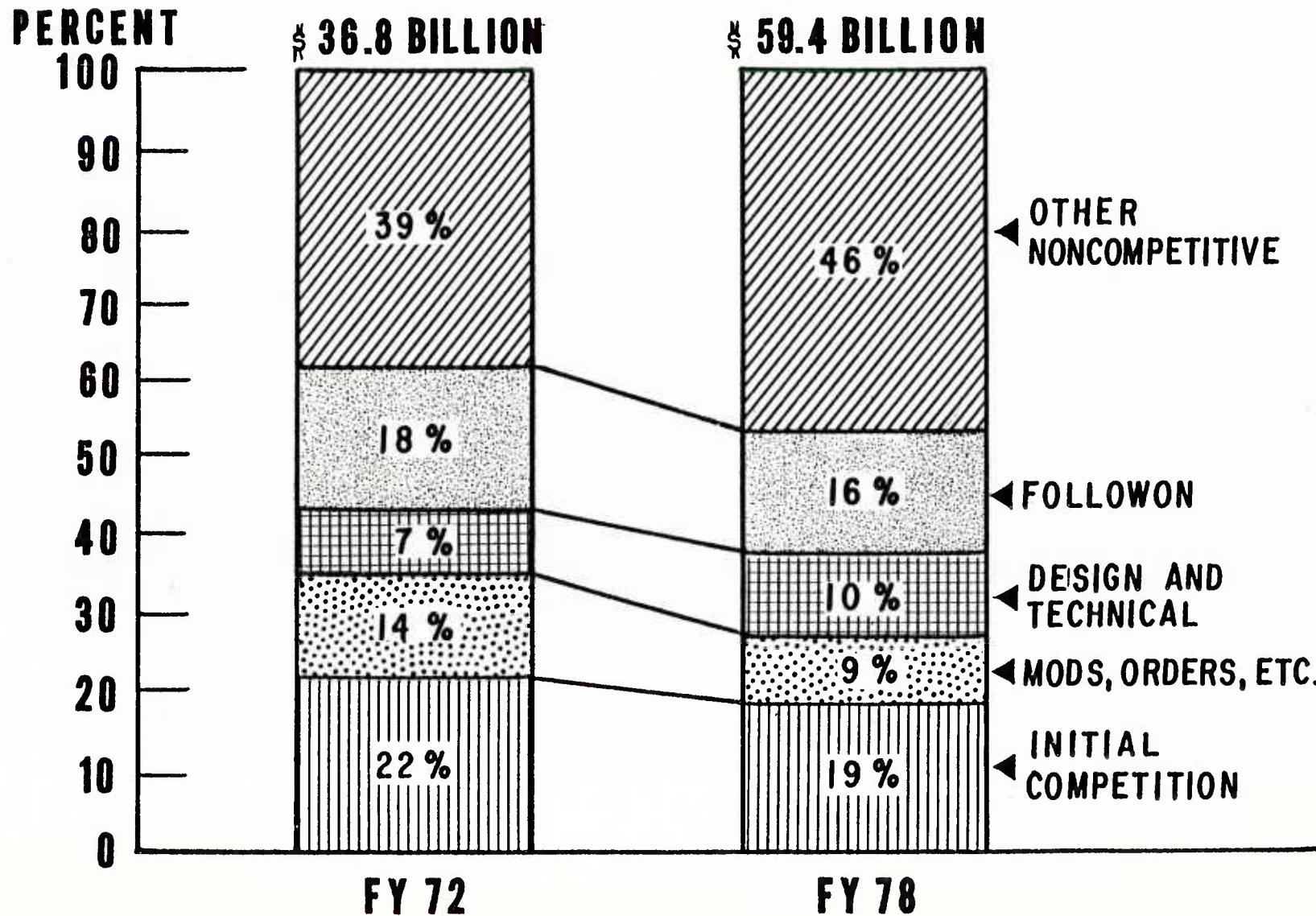
Design or technical competition was three percentage points higher in FY78, follow-ons to price and design or technical competition were two points lower, and noncompetitive dollar awards were seven points higher in FY78 than in FY72.

STATISTICAL ANALYSIS

The apparent downward trend in the overall percentage of dollar awards after price competition may have been caused entirely or in part by two phenomena. Significant

FIGURE 3-1

**COMPARISON OF DOLLARS OBLIGATED, FY 72 AND FY 78,
BY DEGREE AND TYPE OF COMPETITION,
EXPRESSED AS PERCENT OF TOTAL DOLLARS**



dollars may have shifted over the years to product or services categories that have not been or cannot be competed. Alternatively, the level of competition may have declined without significant changes in the kinds of goods and services bought. It is reasonable to expect that in fact both phenomena were present, and the apparent decline was caused by changes in both the kinds of things purchased and the extent of competition.

These possibilities are illustrated by hypothetical examples using two commodity groups, subsistence and utilities. These are illustrated in Table 3-2.

In FY72, the hypothetical procurement program is posited to consist of 90% for subsistence and 10% for utilities. Subsistence is 100% price competitive, while utilities are 100% noncompetitive. Consequently, the overall price competition rate is 90%.

In Case I, the procurement program in FY78 reverses to 10% subsistence, 90% utilities while the extent of competition remains unchanged in each category. Overall price competition falls to 10%, an 80 percentage point decline. To test whether the decline in price competition is due entirely to the change in the program mix, the overall competition percentage is calculated using the FY78 program and the FY72 percentages. This calculation also gives an overall competition percentage of 10% (same as the actual). Consequently, all of the decline is due to the change in program mix.

Case II assumes the same program mix as in FY72, but with competition for subsistence reduced from 90% to 60%. This gives an overall competition percentage of 54%. Taking the FY78 unchanged program mix at the FY72 individual rates for competition, overall competition stays at 90%. Thus, the entire 36 percentage point decline is caused by reduced competition in subsistence.

Case III illustrates how the change in the overall rate for competition can be factored for changes in both program mix and level of competition. Case III posits a reversal of obligations to 10% in subsistence, 90% in utilities, while the rate of competition in subsistence falls from 90% to 60%. The overall rate for competition falls

TABLE 3-2
ANALYSIS OF DATA: EXAMPLE

	<u>SUBSISTENCE</u>	<u>UTILITIES</u>	<u>OVERALL</u>
FY 72	PROGRAM SHARE 90%, % COMPETITIVE 100%	PROGRAM SHARE 10%, % COMPETITIVE 0%	90% COMPETITIVE
<u>CASE I:</u>	(NO CHANGE IN RATES OF COMPETITION)		
FY 78	PROGRAM SHARE 10%, % COMPETITIVE 100%	PROGRAM SHARE 90%, % COMPETITIVE 0%	10% COMPETITIVE
	78 BUDGET AT 72 COMPETITION	= 10% OVERALL COMPETITION	
	ACTUAL	= 10% OVERALL COMPETITION	
		80% DECLINE ENTIRELY DUE TO OBLIGATIONS MIX	
<u>CASE II:</u>	(NO CHANGE IN PROGRAM MIX)		
FY 78	PROGRAM SHARE 90%, % COMPETITIVE 60%	PROGRAM SHARE 10%, % COMPETITIVE 0%	54% COMPETITIVE
	78 BUDGET AT 72 COMPETITION	= 90% OVERALL COMPETITIVE (UNCHANGED)	
	ACTUAL	= 54% OVERALL COMPETITIVE	
		36% DECLINE DUE TO REDUCED COMPETITION	
<u>CASE III:</u>	(CHANGE IN INDIVIDUAL COMPETITION AND PROGRAM MIX)		
FY 78	PROGRAM SHARE 10%, % COMPETITIVE 60%	PROGRAM SHARE 90%, % COMPETITIVE 0%	6% COMPETITIVE
	78 BUDGET AT 72 COMPETITION	= 10% OVERALL COMPETITIVE	
	ACTUAL	= 6% OVERALL COMPETITIVE	
		80% DECLINE DUE TO PROGRAM MIX	
		4% DECLINE DUE TO REDUCED COMPETITION	

to 6%, an 84 percentage point decline. Computation of the FY78 program mix at the FY72 level of competition would have produced an overall 10% rate of competition. Consequently, 80 percentage points of the 84 point decline can be traced to the change in program mix while the remaining 4 points are caused by reduced competition.

The type of analysis illustrated in Table 3-2 was applied to the 127 categories of commodities and services, plus awards of \$10,000 or less, for FY72 and 78. In addition to identifying the decline in the apparent rate of competition as between change in program mix and change in competition, we flagged specific categories as major contributors to the change because of lessened competition. We examined these categories to find the reasons for the lower rate of competition.

RESULTS

First, Figure 3-2 displays an apparent decline in initial awards after price competition from 21.7% in FY72 to 18.9% in FY78. However, the overall competition percentage would have increased to 23.2% in FY78 had the level of competition within each commodity and service category remained at its FY72 level. Thus, in the aggregate, the program mix shifted between FY72 and FY78 towards categories that had above average levels of competition in the base year. This indicates that the apparent decline in competition was more severe than 2.8 percentage points (21.7% to 18.9%); it amounted to 4.3 points when adjusted for the change in the program mix. In turn, the adjusted 4.3 percentage point decline can be identified with awards of commodity and services categories which are most important in terms of dollar obligations and where price competition declined the most. The commodity categories where this occurred, ranked in accordance with the impact on the decline, are given in Table 3-3. Note that only items which contributed to the decline are listed and that the aggregate contribution towards the decline exceeds the 4.3% overall decline. This is because other items (not listed) experienced increased levels of competition to produce an overall net decline of 4.3%.

FIGURE 3-2

TREND IN PRICE COMPETITION / INITIAL AWARDS

OVERALL PERCENT COMPETITIVE

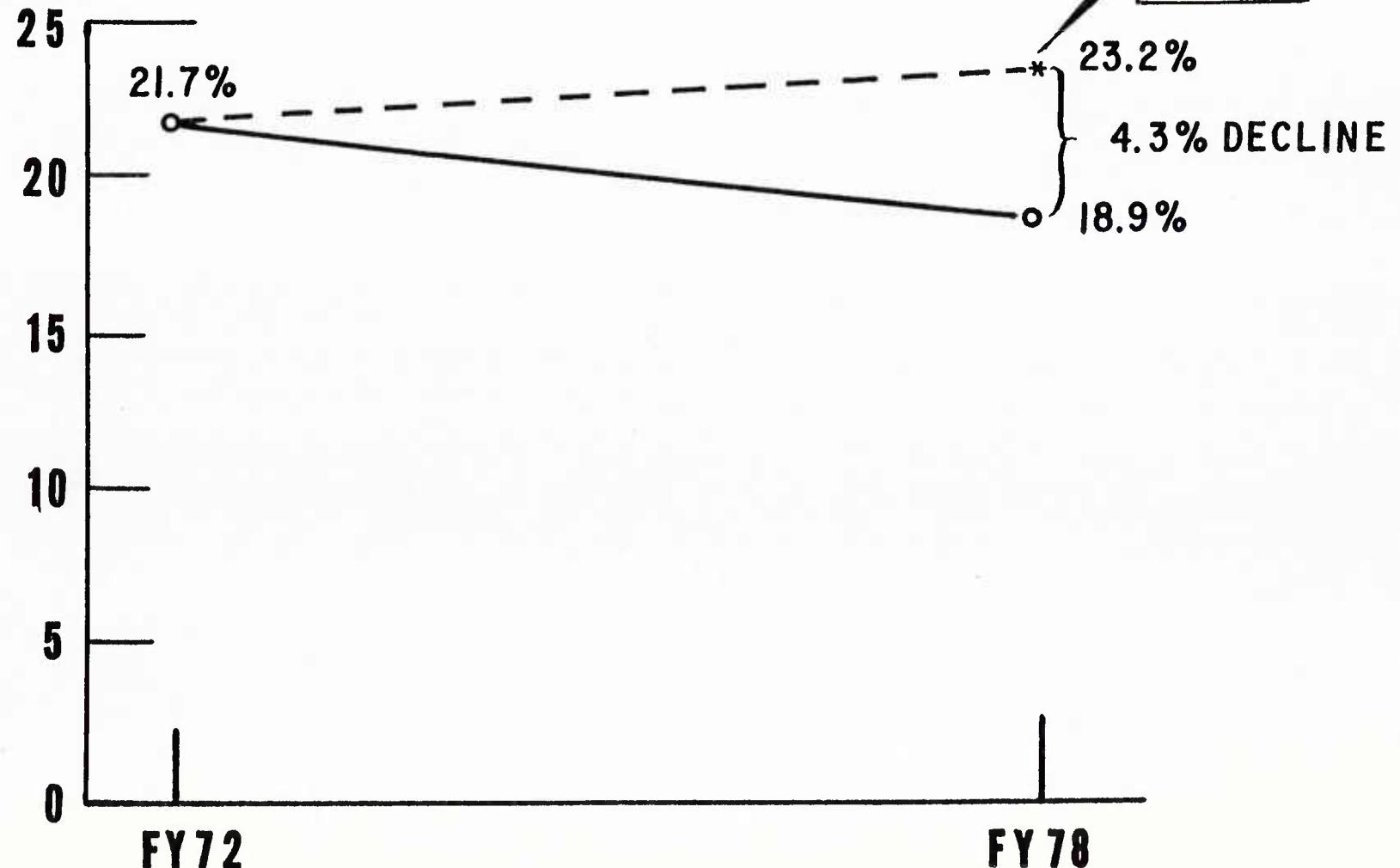


TABLE 3-3

TOP 10 CONTRIBUTORS TO DOWNTREND
(INITIAL AWARDS)

CODE		PERCENTAGE POINTS CONTRIBUTED	PERCENTAGE OF DoD OBLIGATIONS	
			FY'72	FY'78
9130 & 9140	LIQUID PROPELLANTS, FUELS & FUEL OILS*	2.90	3.6%	7.4%
13	AMMUNITION & EXPLOSIVES*	0.54	4.5	2.1
	UNDER \$10,000*	0.32	9.5	7.9
89	SUBSISTENCE*	0.32	2.4	2.1
V	TRANSPORTATION SERVICES	0.19	2.9	1.9
59	ELECTRICAL & ELECTRONIC EQUIPMENT COMPONENTS*	0.17	0.8	1.1
8405	CLOTHING	0.09	0.7	0.7
10	WEAPONS*	0.06	0.5	0.9
38	CONSTRUCTION & OTHER EQUIPMENT	0.06	0.1	0.2
16	AIRCRAFT COMPONENTS & ACCESSORIES	0.06	0.7	0.8
TOTAL DOLLARS (IN BILLIONS)			\$36.8	\$59.4

*ALSO TOP 10, TOTAL PRICE COMPETITION

Some important observations on this list are evident. Commodity groups accounting for the majority of the decline in competition appear to be available commercially; they do not appear to be specialized military items or systems. This is because contracts for military hardware tended not to be price competitive in FY72. Second, a relatively small number of commodities account for much of the decline; fuels account for 2.9 percentage points while the first four items cumulatively account for 4.2 percentage points of the decline.

Turning to total price competition, Figure 3-3 displays an apparent eight point decline between FY72 and FY78. Again, the change in program mix would have tended to increase the overall percentage slightly from 35.6% in FY72 to 36.8% in FY78. Thus, the program mix shifted slightly in FY78 towards categories that had above-average price competition. The difference between the overall percentage measured by the percentage derived from computing FY78 obligations at the FY72 ratio of competition and the actual FY78 rate is 9.2 percentage points. This difference is due to reduced competition. Table 3-4 lists the commodity and service categories which account for the reduction. These are the categories which are most important and which experienced the largest declines in percentage of competition. Again, a relatively few categories are responsible with a single item, fuel, accounting for 3.2 percentage points of the decline. Several weapon system categories, submarines, fixed wing aircraft, and engineering and operational systems development appear on this list because significant dollars obligated for modifications, changes, or definitizations of letter contracts are added to initial awards to make up total price competition. Note also that six of the top 10 categories here also appeared in the top 10 categories for initial awards.

FIGURE 3-3

TREND IN TOTAL PRICE COMPETITION

OVERALL PERCENT COMPETITIVE

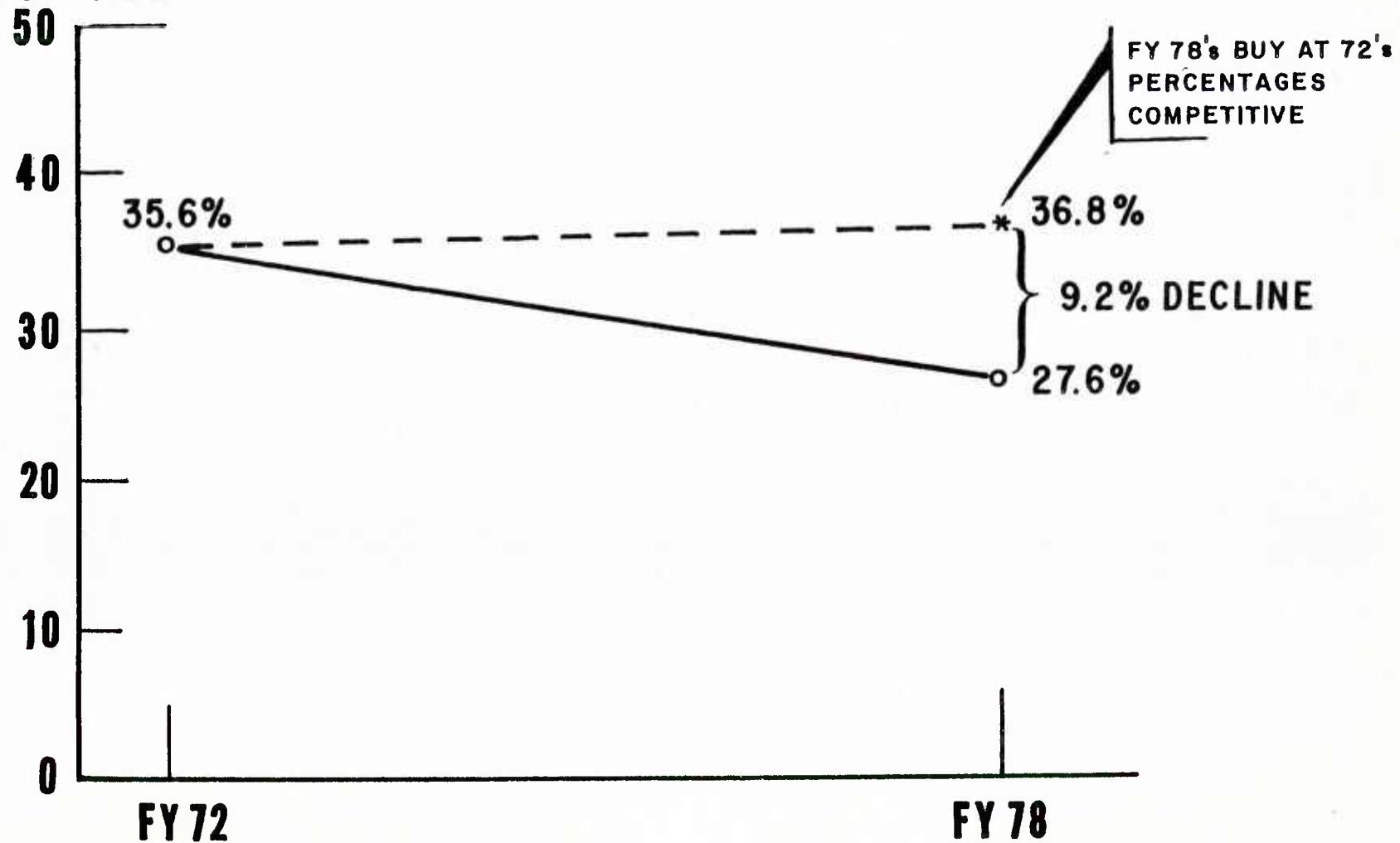


TABLE 3-4

TOP 10 CONTRIBUTORS TO DOWNTREND
(TOTAL PRICE COMPETITION)

CODE		PERCENTAGE POINTS CONTRIBUTED	PERCENTAGE OF DoD OBLIGATIONS	
			FY'72	FY'78
9130 & 9140	LIQUID PROPELLANTS, FUELS & FUEL OILS*	3.25	3.6%	7.4%
1904	SUBMARINES	1.92	0.8	2.1
1510	AIRCRAFT, FIXED WING	1.56	8.6	6.0
13	AMMUNITION & EXPLOSIVES*	0.63	4.5	2.1
10	WEAPONS*	0.33	0.5	0.9
A4 & A5	ENGR & OPS SYSTEM DEVELOPMENT	0.31	9.1	8.6
89	SUBSISTENCE*	0.25	2.4	2.1
59	ELECTRICAL & ELECTRONIC EQUIPMENT COMPONENTS*	0.19	0.8	1.1
23	GROUND EFFECT VEHICLES, MOTOR VEHICLES, EXCEPT TRACKED	0.15	0.8	0.6
	UNDER \$10,000*	0.13	9.5	7.9
TOTAL DOLLARS (IN BILLIONS)			\$36.8	\$59.4

*ALSO TOP 10, INITIAL AWARDS